DOCUMENT RESUME

ED 433 643 EC 307 388

AUTHOR Spratt, Eve G.; Anderson, Deborah; Pagano, Maria; Macias, Michelle

TITLE Collaborative Screening of Psychiatric and Language Disorders in Pediatric Neurology.

PUB DATE 1998-00-00

NOTE 5p.; In: Chapter 5, "Prevention & Early Intervention," of Proceedings of the Annual Research Conference, A System of Care for Children's Mental Health: Expanding the Research Base (11th, Tampa, FL, March 8-11, 1998).

AVAILABLE FROM Web site: <http://rtckids.fmhi.usf.edu>.

PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS Clinical Diagnosis; *Disability Identification; Elementary Secondary Education; *Emotional Disturbances; Incidence; Interviews; *Language Impairments; Medical Evaluation; Multiple Disabilities; *Neurological Impairments; Neurology; Pediatrics; *Screening Tests

IDENTIFIERS University of South Carolina

ABSTRACT

This study evaluated 102 patients (ages 5 to 13) at the Medical University of South Carolina's Pediatric Neurology Clinic for incidence of psychiatric or language disorders. Parents completed the Pediatric Symptom Checklist (PSC), the Child Behavior Checklist, and the Language Problems Scale; phone interviews were conducted to determine child global assessment scores; and pediatric neurologists and parents completed a Likert-type scale on over all functioning and medication compliance. The study found: (1) 52 percent of patients had psychiatric diagnoses of attention deficit hyperactivity disorder, depression, or anxiety; (2) children with psychiatric diagnoses were more likely to have language problems; and (3) the PSC was judged to be a useful, efficient screen in determining which neurologically vulnerable children need more extensive psychiatric evaluation. (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 433 643

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Collaborative Screening of Psychiatric and Language Disorders in Pediatric Neurology

Eve G. Spratt, MD.
Director, Pediatric Consultation Liaison Psychiatry
Assistant Professor
Depts. of Psychiatry & Pediatrics,
Medical University of South Carolina
135 Ashley Avenue
PO Box 250560
Charleston, SC 29425
843/876-0504 Fax: 843/876-0906
E-mail: Spratte@musc.edu

Deborah Anderson, Ph.D.
Clinical Instructor
Pediatrics, Medical University of South Carolina
135 Ashley Avenue
PO Box 250560
Charleston, SC 29425
E-mail: andersod@musc.edu

Maria Pagano Ed. M.
Research Coordinator
Department of Psychology
Massachusetts General Hospital
15 Parkman Street -ACC 725
Boston, MA 02114

Michelle Macias, M.D.
Assistant Professor
Department of Pediatrics
Medical University of South Carolina
171 Ashley Ave
Charleston, SC 29425
E-mail: maciasm@musc.edu

Introduction

The Medical University of South Carolina (MUSC) Pediatric Neurology Clinic has approximately 3000 visits per year with an equal mix of African American and Caucasian populations. Forty four percent of these are Medicaid patients, 1% categorized as indigent and the rest have private insurance. Chief complaints of approximately 70% of the patients are seizure related, approximately 15% are headache related and the rest are parasomnias, developmental disabilities, and somatization of unknown etiology or neuromuscular difficulties. The clinic, housed in MUSC's Children's Hospital, is staffed by three full time Pediatric Neurology attending physicians, residents and medical students of the MUSC. A Child Psychiatrist and a Pediatric Psychologist are regular consultants to the clinic. Between 3 and 5% of the Pediatric Neurology population is referred for mental health evaluation or treatment.

The purpose of this study was to determine in Pediatric Neurology patients (a) the incidence of psychiatric comorbidity; (b) the correlation of language difficulties with psychiatric diagnosis and global functioning; and (c) the utility of a brief screening protocol, the Pediatric Symptom Checklist (PSC), in a busy specialty clinic to identify children needing psychiatric evaluation.

EC 307388

BEST COPY AVAILABLE

Michael Jellinek, MD.
Associate Chief,
Child Psychiatry Service
Associate Professor, Psychiatry (Pediatrics)
Massachusetts General Hospital
55 Fruit St– Bullfinch 351
Boston, MA 02114

Michael Murphy, Ed. D.
Assistant Professor
Department of Psychology
Massachusetts General Hospital
15 Parkman Street - ACC 725
Boston, MA 02114
617/724-3163 Fax: 617/726-9219
E-mail: murphymi@al.mgh.harvard.edu

David Griesemer, MD.
Assistant Professor
Department of Neurology
Medical University of South Carolina,
171 Ashley Avenue
Charleston, SC 29425

Ken Holden, MD.
Associate Professor
Department of Neurology
Medical University of South Carolina,
171 Ashley Avenue
Charleston, SC 29425

Ernie Barbosa, MD.
Assistant Professor
Department of Neurology
Medical University of South Carolina,
171 Ashley Avenue
Charleston, SC 29425

Method

Researchers conducted a prospective, cross sectional study of 102 Pediatric Neurology patients ages 5 to 13 with IQ scores above 70. Patients were seen consecutively and given five dollars for participation (92% agreed). Instruments included a parent completed Pediatric Symptom Checklist (PSC: Jellinek, Murphy & Burns, 1986), the Child Behavior Checklist (CBCL: Achenbach & Edlebrock, 1983), KIDDIE-SADS, and Language Problems Scale (LPS). Child Global Assessment scores (CGAS: Shaffer, et al.) were determined based on KIDDIE-SADS phone interviews by research assistants with extensive interview training. KIDDIE-SADS interviews were conducted based on the results of the PSC and the CBCL scores. Interrater reliability was established on 20 of the 24 cases evaluated by two examiners (83%; $p < .01$; $k = .64$). Hollingshead Socioeconomic data was obtained. Pediatric Neurologists and parents completed a 5 point Likert-type scale on overall functioning and medication compliance. Patients were subdivided into *seizure only*, *headache only*, *both* and *neither* categories. SPSS statistical software was used for analysis.

Results

Data collection included 102 patients, 5 to 13 years of age, with a mean age of 8.4. The subjects were 54 males (52%) and 48 females (48%). Forty-six (45%) are minority and 56 (55%) are non-minority.

Psychiatric comorbidity. Fifty two percent of the Pediatric Neurology patients had a DSM-IV psychiatric diagnosis of ADHD, depression, or anxiety, 28% had significant PSC scores and 37% received CGAS scores less than 70, indicating the presence of impairment.

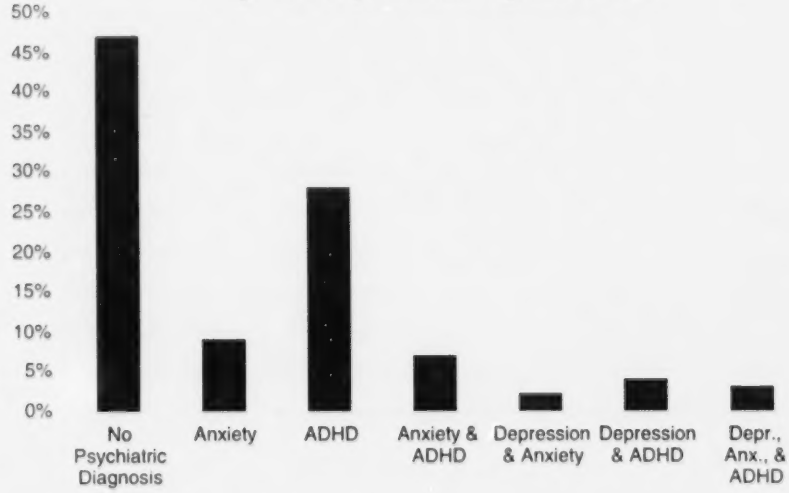
Language difficulties, psychiatric diagnosis and global functioning. Children with psychiatric diagnoses were more likely to have language problems as indicated by higher LPS scores (F=18.429, p <.05) LPS scores correlated positively with PSC results (r =-.601, p <.001) and CBCL scores (r =.666, p<.001). Elevated LPS scores were not significantly related to socioeconomic status. Having a neurologic difficulty was a risk factor for psychiatric diagnosis, but having a single specific neurologic disorder or multiple neurologic diagnoses was not predictive of psychiatric distress.

Utility of the Pediatric Symptom Checklist (PSC). The CBCL identified 39 of 102 children (38%) as positive cases (total T score of 63 or above). Of the 39 CBCL positive cases, the PSC correctly classified 25 of them, yielding a sensitivity of 64.1% in this sample. Of the 63 children scoring less than the cut off for the clinical range of 63 on the CBCL, the PSC correctly classified 60 of them, yielding a specificity of 95.2%. A PSC cut off score of 22 (vs. 28 in previous literature: Jellinek, Murphy & Robinson, 1988; Murphy, Arnett, Bishop, Jellinek & Reede, 1992) yielded maximal sensitivity of 89.7%, correctly identifying 35 of the 39 children identified as positive cases by the CBCL. A cut off of 22 allowed correct classification of 49 of the 63 children scoring below 63 on the CBCL, yielding a specificity of 77.8%. CGAS scores correlated negatively with PSC scores (r =-.601, p<.05), with specificity of 85.9%, and sensitivity of 52.6%. SES was significantly negatively correlated with PSC score (r =-.220, p <.05) which is also consistent with previous PSC literature. There was no significant difference in patients scoring above cut off on the PSC between categories of headache only, seizure only, both, or neither, although there was a trend of medical severity to predict lower CGAS scores.

Discussion

As has been shown in previous research, the rate of psychological dysfunction and psychiatric diagnosis is two to ten times higher in Pediatric Neurology clinics than in other pediatric clinics (Creed, Firth, Timol, Metcalfe & Pollock 1990; Berlin, Ronthal, Bixler, & Kales, 1983; Kaufman, Solomon, Pfeffer, 1992). Both PSC and LPS scores correlate significantly with all other behavioral measures. The type of neurologic diagnosis did not influence CGAS scores or psychiatric diagnosis. The PSC is a useful, efficient screen to determine which neurologically vulnerable children need more extensive psychiatric evaluation. The risk of false positives is very low with an acceptable false negative rate with PSC cut off scores of 22. Our institution plans to implement use of the PSC and LPS for all school age patients seen in the pediatric Neurology Clinic to provide more efficient triage and comprehensive service delivery.

Figure1
Percent of Peds-Neuro Patients with KIDDIE-SADS Diagnosis of Depression, Anxiety, and/or ADHD



References

Achenbach, T. M., & Edelbrock, C. S. (1983). *Manual for the Child Behavior Checklist and Revised Child Behavior Profile.* Burlington, VT: Department of Psychiatry, University of Vermont.

Berlin, R. M., Ronthal, M. Bixler, E.O. & Kales, J.D., (1983), Psychiatric symptomatology in an outpatient neurology clinic. *Journal of Clinical Psychiatry, 44*(6), 204-206.

Creed, F., Firth, D., Timol, M., Metcalfe & R. Pollock, S. (1990), Somatization and illness behavior in a neurology ward. *Journal of Psychosom. Research, 34,* 427-37.

Jellinek, M. S., Murphy, M., & Burns, B. J. (1986). Brief psychosocial screening in outpatient pediatric practice. *Journal of Pediatrics, 109,* 371-378.

Jellinek, M. Murphy, J., & Robinson, J. (1988). The pediatric symptom checklist: Screening school age children for psychosocial dysfunction. *Journal of Pediatrics, 112,* 201-209.

Murphy, J. M. Arnett, H. L., Bishop, S.J., Jellinek, M.S. & Reede, J.Y. (1992) Screening for psychosocial dysfunction in pediatric practice: A naturalistic study of the Pediatric Symptom Checklist. *Clinical Pediatrics (Philla), 31,* 660-666.

Shaffer, D., Gould, M. S., Brasic, J., Ambrosini, P., Fisher, P., Bird, H., & Aluwahlia, S. (1983). A Children's Global Assessment Scale (CGAS). *Archives of General Psychiatry, 40,* 1228-1231.

Kaufman, D.M., Solomon, G.E., Pfeffer, C. R. (eds.)(1992). *Child and adolescent neurology for psychiatrists.* Williams & WIlkins

PEDIATRIC SYMPTOM CHECKLIST

CHILD'S NAME:_____ AGE:_____ DATE: _____

Please **CHECK BOX** under heading that **best fits** your child:

Never	Sometimes	Often		
☐	☐	☐	1.	Complains of aches or pains.
☐	☐	☐	2.	Spends more time alone.
☐	☐	☐	3.	Tires easily, little energy.
☐	☐	☐	4.	Fidgety, unable to sit still.
☐	☐	☐	5.	Has trouble with a teacher.
☐	☐	☐	6.	Less interested in school.
☐	☐	☐	7.	Acts as if driven by a motor.
☐	☐	☐	8.	Daydreams too much.
☐	☐	☐	9.	Distracted easily.
☐	☐	☐	10.	Is afraid of new situations.
☐	☐	☐	11.	Feels sad, unhappy.
☐	☐	☐	12.	Is irritable, angry.
☐	☐	☐	13.	Feels hopeless.
☐	☐	☐	14.	Has trouble concentrating.
☐	☐	☐	15.	Less interest in friends.
☐	☐	☐	16.	Fights with other children.
☐	☐	☐	17.	Absent from school.
☐	☐	☐	18.	School grades dropping.
☐	☐	☐	19.	Is down on him or herself.
☐	☐	☐	20.	Visits doctor with doctor finding nothing wrong.
☐	☐	☐	21.	Has trouble sleeping.
☐	☐	☐	22.	Worries a lot.
☐	☐	☐	23.	Wants to be with you more than before.
☐	☐	☐	24.	Feels he or she is bad.
☐	☐	☐	25.	Takes unnecessary risks.
☐	☐	☐	26.	Gets hurt frequently.
☐	☐	☐	27.	Seems to be having less fun.
☐	☐	☐	28.	Acts younger than children his or her age.
☐	☐	☐	29.	Does not listen to rules.
☐	☐	☐	30.	Does not show feelings.
☐	☐	☐	31.	Does not understand other peoples' feelings.
☐	☐	☐	32.	Teases others.
☐	☐	☐	33.	Blames others for his or her troubles.
☐	☐	☐	34.	Takes things that do not belong to him or her.
☐	☐	☐	35.	Refuses to share.

[Michael Jellinek, M.D., Massachusetts General Hospital]

BEST COPY AVAILABLE